Battle Force Capabilities / Mission Capabilities Packages

For the Interoperability Workshop

N70 Warfare Integration & Assessment

29 May 2001
CAPT John Yurchak

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Context: The Dilemma

What We Want ...

- We're trying to build complex, highly networked, integrated, joint multi-platform, multi-system capabilities ...
  - Without a top-level design
  - Within a patchwork of stove-piped non-integrated processes

... And How We’re Trying To Get There Today
What's Wrong

What We Want ...

- Fundamental, systemic interoperability problems persist in POR systems
- Focus is still on systems and platforms vice capabilities
- Uncoordinated, non-synchronized decision processes
- Inconsistent information sources and decision products
- Many authorities/stakeholders not linked to key processes/decisions
- Confusion over “Who’s in charge” a recurring theme throughout
- Need for architectures repeatedly asserted

... And How We’re Trying To Get There Today
# Key Processes Affecting the End-State

## Key processes
- Reqsmts Gen & Analysis
- Capability Planning / Analysis
- Opnl Concept Expl & Dev
- R&D / Tech Innovation
- Resources PP&B
- Systems Engineering
- Program Mgmnt
- Configuration Control

## Related Activities
- M&S / Lab / Live T&E and Experimentation
- Analysis & Assessment
- Planning
- Tracking & Oversight
- Tradeoffs (Risk, Capability, Engineering)

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- Multiple Stakeholders, Process Owners, Decision Authorities
- Different domains, agendas, objectives, incentives, metrics, frameworks
Summary Process Assessment

Dominant Process Issues

- Inconsistent analytic frameworks and metrics
- Non-integrated requirements (platform vs battle force / FOS focus)
- Inconsistent, nonintegrated tradeoff processes and objectives (Risk, fiscal, capability, engineering, etc.) and feedback
- No unifying context

The status quo won't get us there

Many processes / links "broken" or ineffective

But …

Lots of good work converging on some dominant issues
Just How "Bad" Is It?

• Not a "war-losing" condition, but ...
  – Operational confusion, delayed or errant decisions
    ... when we need clarity and precision
  – Longer operational planning & execution timelines
    ... when we need to shorten them
  – Smaller engagement envelopes
    ... when we expected (paid for) much more
  – Increased cost-of-ownership and time-to-market
    ... when we're trying to be more nimble and efficient

• It's taken a long time for us to get into the state we're in today ...
  ... and it will take some time just to see improvement

• No one organization owns the key to a solution
• No single action or decision, from anyone, will get us out of this
Who’s “Doing” Architecture-Related Work Today?

Much valuable architecture work underway, but …
• Mostly uncoordinated, non-integrated or incomplete
• Generally, platform / system focused (changing slowly)
• Inconsistent terms, fidelity, formats, tools, data models
• Non-compliant with OSD Architecture Framework
• Mostly ineffective (i.e., “powerless”, irrelevant) documents
• Who integrates? Who validates? Who approves?
• What important decisions do they affect?

No coherent Navy, Joint, DoD “view”
If We're Going to Effect Process Changes ...

We must answer the following questions:

• What are the relevant domains / processes?
• Who are (should be) ...
  – Stakeholders?
  – Process owners?
  – Decision makers?
• What relevant decisions to affect / effect, and when?
• How to support decisions?
  – What data, frameworks, methods, processes, tools, products?
• How to influence decisions?
  – Acquire decision authority?
  – Advise decision makers?
What We're Proposing

Objective: Make milestones and other important program planning decisions depend on compliance with validated and approved integrated architectures

Note: This is not just C4ISR
How To Achieve What We Want
The Mission Capability Package (aka Portfolio)

Use Mission Capability Packages (MCPs) as the focus of integration

What’s a MCP?
• Introduced by the concept of Network Centric Warfare / Operations
• A Task-Organized Bundle of ...
  - CONOPS, processes and organizational structures
  - Networks, sensors, weapons and systems
  - The people, training and support services to sustain it

A MCP treats all of the above not as a collection of things and processes - but as an integrated system

Architectures should be based on (describe) MCPs

MCP ~= Joint Staff Joint Mission Area (JMA), DoD Portfolio
Example Mission Capability Packages (MCPs) as "Slices" Through the Platform/System Domain

Tactical C2 MCP (N6)
ISR MCP (N2)
Navigation MCP (N096)
USW MCP (N74)
TAMD MCP (N70)
Time-Critical Strike MCP (N70)

Capability Sponsors aligned to these capability packages

Current Navy Warfare Sponsors
EXW N75
SUW N76
USW N77
AW N78
T&E N79

Capability Sponsors accountable
The Mechanisms For Change

- The Principal Output = Battle Force Capabilities

- The Principal Mechanisms for Integration = Integrated Architectures

- The Principal Mechanisms for Achieving Alignment = Mission Capability Packages
The Principal Navy Stakeholders

- OPNAV (CNO, N8, N7, sponsors)
- Fleet
- ASN(RDA) Chief Engineer
- NWDC
- ONR
- PEOs and SYSCOMs
Changes To The Status Quo
A Simplified View

Mission Capability Packages

Battle Force Capabilities

Operational Needs & Requirements
- Fleet
- Joint
- Allied

Integrated Requirements
- Integrated Architectures
- Integrated Strategic Business Plan
- Integrated Program Program Proposals

Service POM

MCP Planning

Battle Force Planning (FMP)
- Battle Force Systems Engineering
- Fleet Modernization Program
- DEP / JDEP
- D-30, BGSIT, BGIT

Concepts & CONOPS

Service & Joint Assessments

S&T Planning

Service & Joint Experimentation
Key Elements of the MCP Planning Process

MCP Requirements Integration

Concepts & CONOPS

Integrated Architectures + CRDs

System-of Systems AOAs

[ Detail / Explanation ]
Key Elements of the MCP Planning Process

MCP Requirements Integration

Concepts & CONOPS → Integrated Architectures + CRDs

System-of Systems AOAs

What we are actually trying to do (accomplish)
- What are our operational objectives?
- What time frame (in the future)?
- What circumstances (situations, environments)?
- How do we propose to (operationally) do it?

Integrated Strategic Business Plan
Key Elements of the MCP Planning Process

MCP Requirements Integration

Concepts & CONOPS

Integrated Architectures + CRDs

System-of Systems AOAs

Requirements analysis and the resulting Architecture
- Who are the actors (participants, nodes)?
- What specific tasks (activities) must the actors perform to accomplish our objectives?
- What is each task’s relative importance (criticality) to the objectives?
- How are the actors organized?
- Who connects to whom (interfaces)? Under what circumstances?
- What key pieces of information must the actors share (pass, process)?
Key Elements of the MCP Planning Process

MCP Requirements Integration

Concepts & CONOPS

Integrated Architectures + CRDs

System-of-Systems AOAs

Document the operational requirements for a system-of-systems capability
- The desired operational capability
- The threat
- Operational/requirements gaps, misalignments
- Operational and interoperability key performance parameters
Key Elements of the MCP Planning Process

MCP Requirements Integration

Concepts & CONOPS
Integrated Architectures + CRDs
System-of-Systems AOAs

Implementation analysis and trade-offs
- What are the operational performance-cost-schedule trades?
- What are the viable alternative paths to implementing the capability?
- What are the long-term effects on the shape of the architecture / capability?

Refined systems requirements
- SRD, systems architecture(s), etc.
Basic Approach We're Taking

MCP Requirements Integration

The Strategic Business Plan for implementing the capability
• What specific implementation alternatives should we consider?
• What specific capability objectives? What time-frame?
• What contributes to each objective (platforms, programs, systems, technologies, training, support, etc.)?
• How do we time-phase the implementation?
• What specific changes to the POR?
• How do we propose to resource each change?
• What are the priorities?

Integrated Strategic Business Plan

NROC / CEB

End Game

SPPs

CPAM

FMP

PPBS

BAMs

DRAFT - WORKING PAPERS
Basic Approach We're Taking

MCP Requirements Integration

Concepts & CONOPS

Integrated Architectures + CRDs

System-of Systems AOAs

Senior leadership approval
- Are these plans aligned with our strategy?
- Do the pace, objectives and milestones make sense?
- Are the relative priorities and investments sound?
Changes to The Status Quo (OPNAV)

Requirements Generation

N7

- Integrated Program Proposals
- Guidance
- Integrated Strategic Business Plan

POM

N8

- End Game
- P&F Guidance
- CPAM
- IWAR Assessments

Requirements Validation

MCP Planning

S&T Planning

Concepts & CONOPS

What is the requirement?

What capabilities do we need? When?

How much capability do we need? What are the alternatives? Risks?

How could we pay for them? How much capability should we buy?

What trades should we make?
We need to try to influence decisions in here

Each year, this curve moves to the right
Timeline and Pressure Points
(TCS example, assuming the current planning target is POM-04)
What Budget Are You Working On Today?

The Lure of the "Quick Kill"

All these processes are happening concurrently

Execution: FY01
In Congress: POM-02
Service Programming: PR-03
Service Planning & Assessment: POM-04

What interoperability planners should be trying to effect / affect today

Changes or directives applied "above" POM-04
(in the absence of some overarching plan or context)
risk breaking or invalidating
• Previous coordination or integration
• Previously set priorities
• Program or resource synchronization or alignment
Questions?